

Nikon F2 Photography Guide

System shooting,
the way to fine photography



Congratulations!

You have joined the select group of masters who communicate in the language of fine photography. Be proud of your Nikon F2. There's really no other 35mm SLR camera quite like it. Look at it again. Hold it. Feel its strength and promise. The fulfillment — professional pictures that speak and persuade — is all up to you.

This brochure simply reminds you of the many general picture-taking opportunities and how you can make most use of them with the Nikon system of photography. For whatever the photographic situation or how creative you want to be, the Nikon system will let you do it. Look what's behind it: more than 40 Nikkor lenses, six viewfinders, 18 focusing screens, 3 motor drives, a wide collection of close-up accessories and many, many other very useful photographic equipment.

The use of a lens and accessories for a specific situation recommended in this booklet may differ from your selection. Let your creativity and personal preference decide what combination you want. But no matter how factually or fancifully you want to capture your subject,

you can be confident in the support of the Nikon system. It's a good idea also to reassess your present notions regarding exposure control, composition, lighting, and so on. Very basic rules are often forgotten. Take those for camera steadiness. Too abrupt shutter releasing, heavy breathing, etc., may result in a blurred or fuzzy picture.

Some lenses from other makers may fit your Nikon F2. But for smooth, compatible performance and best results, only Nikkor lenses are recommended for use with your Nikon F2. Made from our own optical glass and backed by more than half a century of Nikon specialization in optical technology, the Nikkor lenses complement the quality and impeccable performance of your Nikon F2.

For further information on the Nikon system of photography, please refer to literature available from any Nikon dealer.

Good shooting!

Travel

What's worth seeing is worth shooting.

The wise photographer-traveler goes prepared. So don't forget the maps and brochures available free from tourist and guide agencies and the clippings you've saved from camera and travel magazines, for what is worth seeing is worth shooting. Besides your favorite ones, take along a high-speed Nikkor lens, either the 50mm f/1.4 or the 55mm f/1.2, since you're bound to come across some poor lighting situations. Also carry a Nikon binocular to take you where the action is. It's made of the same superior optics as your Nikkor lenses.

Whether you've been there before or this is your first trip, remember people and places are never the same. That's what makes life so exciting. Well-trodden tourist paths still offer photographic surprises as do out-of-the-way places. With your Nikon F2 and your own Nikon system of accessories, you'll always be ready for them.

Because they're there

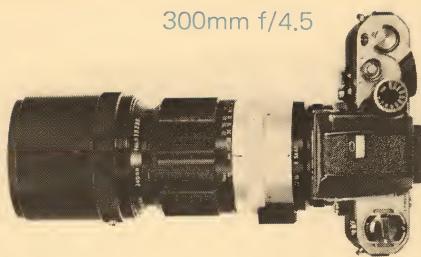
Try to capture mountains when the weather changes

suddenly. Proud and distant, they often display their full majesty only briefly. The best times are at dawn or dusk when the play of light reveals long shadows and highlights the contours, after a storm when swirling clouds pass and momentarily reveal the peak and when mist shrouds the treacherous ridges.

Since a mountain has its own personality, accentuate it, whether it is the sharp and forbidding summit or the gentle roll of the ridges. Select the right angle and the right object for the foreground (flora, a lake, boulders, a group of alpinists, hunter's hut, etc.), and carefully compose to bring out the mountain's character, the way you feel and see it.

A Nikkor medium telephoto, either the 180mm f/2.8, 200mm f/4 or longer 300mm f/4.5, will take care of most of your mountain photography. Or try the compact 400mm f/5.6 or the still more compact 500mm f/8 Reflex-Nikkor. You don't need a tripod for either, and their light weight of 1.4kg (3.1 lb) and 1kg (2.2 lb) respectively won't add much to your mountain-climbing gear.

When doing landscapes and pastoral scenes, also bring



300mm f/4.5

an object into the foreground, such as grazing sheep or a haystack, or frame your picture with overhanging branches or a fence for greater pictorial effect.

Your best bet for these bucolic scenes are, again, the Nikkor medium telephotos.

To convey the vastness and grandeur of nature and give the viewer the impression that he is part of the scenery, use a Nikkor wideangle, like the bright 35mm f/1.4 (also available in f/2 and f/2.8) or the very popular 24mm f/2.8.

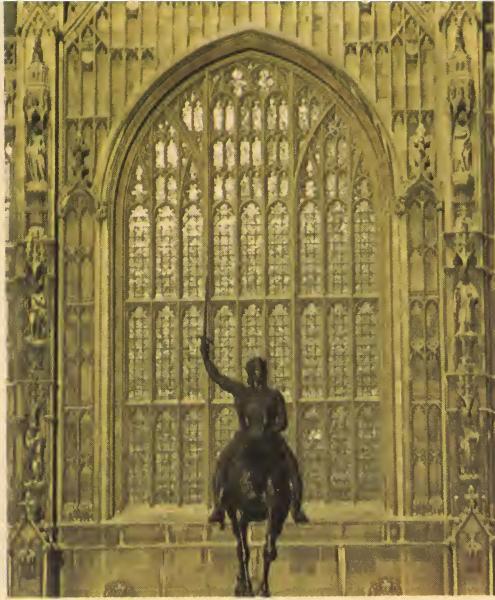
To emphasize contrast and bring out more details of the mountain or landscape, attach an orange or red Nikon filter, or try infrared photography.

Remember, the higher the mountain and the more distant the vista, the more trouble you'll have with ultraviolet rays. Therefore, be sure to take along Nikon ultraviolet filters for black-and-white and skylight filters for color photography. These filters are also useful for protecting your lenses against possible scratches, moisture and dust.

A. Gregory
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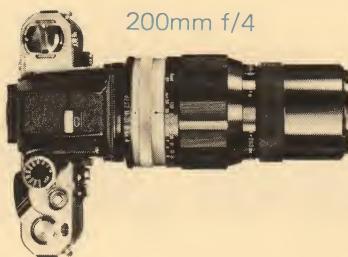
F. Hidalgo



Monuments of man

Each age, each country has its own architectural wonders. In shooting these tourist attractions, you'll find that you need more than just the normal lenses to take your subjects in all their natural settings and to close-in on a particularly interesting object. From among the wide selection of lenses that you can use with your Nikon F2, you're sure to have the right lens for the right picture. For instance, to record a general view of the entire scene and bring the viewer into it, you have a choice of eight Nikkor wideangles, the very wide 15mm f/5.6, 20mm f/3.5, 24mm f/2.8, 28mm (f/2 and f/3.5), 35mm (f/2, f/2.8 and unusually bright f/1.4). And for a still more encompassing picture try any of the five

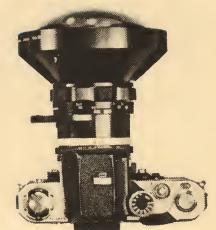
200mm f/4



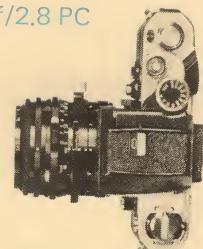
Fisheye-Nikkor, e.g., the bright 8mm f/2.8 with its 180° coverage. To give personal meaning to these pictures, have members of your family or tour group in the foreground. But don't pose them. Have them participate in the scene naturally. For a close-up of the face of the national hero on his horse or the frieze of a Greek temple, use a Nikkor medium telephoto, either the 105mm f/2.5 or the 135mm (f/2.8 and f/3.5). Or substitute the 200mm f/4; it weighs only 630g (1.4 lb) and can be hand-held in shooting. And for extreme close-ups up to life-size of the carvings and paintings on the walls of palaces and temples, the 55mm f/3.5 Micro-Nikkor-P

8mm f/2.8 Fisheye-Nikkor Auto

Sees and records every object in a full 180° hemisphere. Everything in front, above, below and at either side of the lens is captured and appears as a 23mm circular image on film. But unlike the other fisheye lenses, it offers, in addition to its high speed of f/2.8, complete and direct viewing of the subject through the finder and an automatic aperture diaphragm for through-the-lens exposure metering at full opening. Now, there's no need to lock up the mirror. It finds many applications in scientific (including meteorological), industrial and commercial photography.



35mm f/2.8 PC



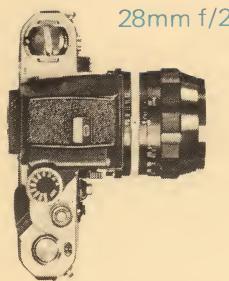
is recommended. You can also use this versatile lens for general photography.

If you're an architectural buff or want pictures without converging lines, you'll need the perspective control of the 35mm f/2.8 PC-Nikkor. This remarkable lens will retain the vertical and, when necessary, the horizontal lines of buildings without having to tilt the camera.

In comparing any of the above shots taken with the recommended lenses with those taken by a normal lens, you'll realize that the wideangle, telephoto and special lenses bring greater professional touch to your pictures.

35mm f/2.8 PC-Nikkor Through its ingenious perspective control, the PC-Nikkor brings view-camera versatility to 35mm photography. Its frontal shifting 11mm off-center in any direction controls the parallels of structures. In addition to its obvious application in architectural recording, this remarkable lens is also very effective for commercial and industrial photography. And by shifting the lens vertically or horizontally without moving the camera, you can take a series of two pictures for an exactly matching panoramic shot. Focusing screen Type E is especially suited for this lens.





28mm f/2

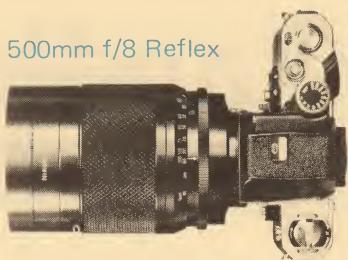
Where the people are

Open-air markets afford a splendid opportunity to catch the customs, produce and folkcraft of the region. For an overall shot, try any of the Nikkor wideangles. They'll bring both the natives and their background in equally sharp focus. At public squares don't miss the chance of recording the aged sunning themselves on benches, mothers gossiping or children feeding the pigeons. During lunch hours you'll also see workers eating their lunches and young couples in embrace. Your Nikkor telephotos will capture them without intruding.



S.G. Hill

500mm f/8 Reflex



J. Cooke



Shooting game with a camera

On a safari, shooting game with a camera is just as exciting and dangerous as shooting with a rifle. And the trophies are your pictures. For safety, stalking the animal on foot is not advised, and a hide or blind will limit your viewpoint and lighting. Your best bet, then, is to shoot from a car and luckily many game reserves are on flat, open scrub country. With a Nikkor telephoto, either the 180mm f/2.8, 200mm f/4 or the 300mm f/4.5 capture the sudden fear of a frightened fawn or the humor of necking giraffes. Or the 80mm-200mm f/4.5 Zoom-Nikkor will let you zoom in 2m (6-1/2 ft) on your animal for a close shot and keep it in focus as it flees away. Circumstances permitting, you can set up a tripod and also use the 50mm-300mm f/4.5 or 200-600mm f/9.5 Zoom-Nikkor, or the 1000mm f/11 or mammoth 2000mm f/11 Reflex-Nikkor to record a duel between two kings of the jungle. And of course, the 500mm f/8 is always handy for long shots. But what better way is there to shoot a charging

rhinoceros than with a Nikon Motor Drive and a Nikkor telephoto or zoom lens triggered by remote control (see Motor Drive, p. 24), a combination a safari photographer can't be without.

Candids

*Caught in the act
of living the drama of life.*



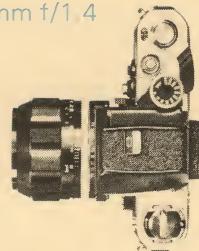
S.G. Hill

45mm f/2.8 GN
and Flash Unit BC-7



Some of us are fooled by many of the so-called straight news photos in newspapers and pictorials. They are posed shots, but their editors won't admit it. They appear natural only through the skill of the photographer and the cooperation of his subjects. Ethical or not, such contrived pictures pass as candids. The real candids, however, are unposed shots of subjects engaged in a natural activity, and often taken without their knowledge. And it is in candid photography that alertness and patience are as much a part of the cameraman's makeup as the accessories he uses.

35mm f/1.4



Indoors

Formal shots are fairly easy, but have you tried candids of your friends caught with their pose down?

With the Nikon system of photography, you get all the professional equipment you need to be prepared for true candids.

If you're ushering at a wedding or hosting a party, you'll know in advance the vantage points to shoot from. And you'll be able to pretest probable situations and the camera-to-subject distance and decide whether you need extra lighting. Because it measures illuminance as low as EV1, the Photomic Finder will let you meter your exposures even in very dark places. For flash, the handy 45mm f/2.8 GN Nikkor Auto performs automatic aperture setting through a guide-number coupling system. (And when you're not using it for flash photography, take advantage of its special compactness and leave it on your Nikon F2 whenever you're out on an ordinary photo session.)

The standard 50mm f/1.4 or 55mm f/1.2 will capture your subjects clearly even in a normally lit room. Or depending upon the room size, use a Nikkor

wideangle. The 35mm f/1.4 is recommended for the fastest shutter speed under available light. Record your friends enjoying drinks or go-going and take in the background to capture the mood of the party. And if you want to be in the picture too, simply use the Self-Timer on the Nikon F2.

You can set it for up to 10 seconds.

For portraits, select one of the high-speed Nikkor telephotos, e.g., the 85mm f/1.8, 105mm f/2.5, 135mm f/2.8 or 180mm f/2.8 plus a high-speed film, and make the best use of available light.

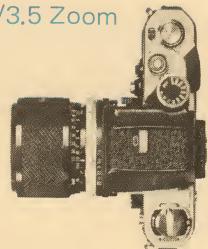
The Nikon Flash Unit BC-7 has no tangling wire and provides the most effective light at a party; the collapsible fan makes it convenient to carry the unit around and the swivel head will give you ideal bouncelight without producing sharp shadows.

Outdoors

For candid portraits that you can really be proud of and make your subject happy, use a Nikkor telephoto, again, either the 105mm f/2.5, 180mm f/2.8 or 200mm f/4 for hand-held shooting. And for convenient framing without interchanging lenses, try the handy 43mm-86mm f/3.5 or the longer 80mm-200mm f/4.5 Zoom-Nikkor. The latter fits comfortably in your hand and can be used without a tripod.



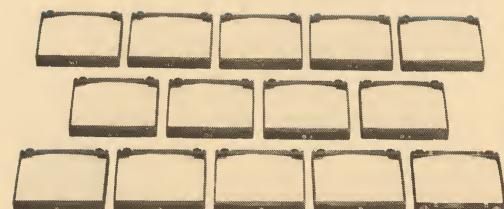
43-86mm f/3.5 Zoom



Since the most exciting and realistic candids are done as close to the subject as possible, make your presence known quickly but remain in the background. And if you can move in closer to the subject, switch to a Nikkor wideangle. It'll fuse him with his background and convey a dramatic sense of immediacy, especially if the subject is engaged in some activity, as in group sports or dance. Conversely, color film heightens the gaiety of a festive occasion, with an overcast day bringing out colors more vividly.

Focusing Screens Unlike most 35mm SLR cameras which have only one fixed focusing screen, your Nikon F2 offers you 18 interchangeable screens. Each has its own characteristic pattern to offer special advantages for the specific situation or to suit your personal preference. Type A has a split-image rangefinder in 12mm central spot and comes as standard screen with Nikon F2; Type B, same as Type A but without split-image rangefinder and particularly good for close-ups and long telephoto shots; Type C, plain matte surface and clear center spot with cross-hair reticle especially convenient for photomicrography; Type D, plain matte surface; Type E, etched vertical and

horizontal lines, ideal for architectural photography; Type G, clear Fresnel field with extra-bright 12mm microprism spot for extremely bright focusing; Type H, microprism pattern over entire screen in clear Fresnel field for rapid focusing and edge-to-edge brightness; Type J, a microprism rangefinder spot in 12mm diameter center area; Type K, combination of split-image (Type A) and microprism (Type J) for rapid and accurate focusing; Type L, split-image rangefinder at 45° angle, particularly effective when focusing on an object lying parallel with the horizon; and Type M, double cross-hair reticle and scale on clear surface for photomicrography and close-up work requiring high magnifications. Types G and H screens which do not have light-scattering matte surfaces, each come in four varieties, each with different-power Fresnel lenses and different prism angles to correspond to the varying focal lengths of the interchangeable Nikkor lenses.



PHOTOGRAPHY UNDER UNFAVORABLE LIGHT CONDITIONS

Sunrise and Sunset

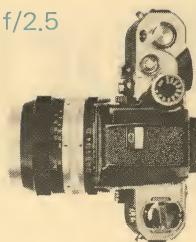
To capture the brilliant colors of the sky from a rising or sinking sun, base your exposure reading on the brightness of the sky to darken the foreground, and slightly overexpose the sun. Bring a ship, tree, people, etc., into the foreground to be silhouetted against the sky for dramatic composition. Or you can use multiple exposures, shooting the sun first and then the foreground. After your first shot, simply press down on the rewind button of your Nikon F2 and wind the stroke. The shutter is cocked without any film winding. Then take your next picture. Some sun capturers try for the star effect (flaring of the sun's rays forming a star) by stopping the lens down a few stops below the basic reading. To retain some details of the foreground, close down the lens only one or two stops. For long exposures, make use of the extra-slow shutter speed provided on your camera.

To picture the sun as a giant burning globe, you need the Nikkor telephotos. The longer the focal length, the larger the solar disk. Thus, with the 105 mm f/2.5, the sun will be twice the diameter of that taken by the 50mm, while with the 500mm, 1000mm and 2000mm Reflex-Nikkor, whose catadioptric system of mirrors and lenses has resulted in a great reduction of their weight and bulk, the sun will be 10, 20 and 40 times as large respectively. With any of these lenses, you can also capture the harvest moon forming a large golden crown for a haystack or a chapel steeple.

Sand and Snow

For sun-splashed beach, desert or ski scenes, you may get overexposure even if you use the highest shutter speed and smallest aperture opening when your camera happens to be loaded with a high-speed film. The Nikon Neutral Density (ND) Filters come in handy here.

105mm f/2.5



They reduce the amount of sunlight without altering the image contrast and color rendition. An ND filter should also be attached when the lens is used at large apertures to minimize the depth of field.

To prevent extraneous light from hitting the lens surface, use a Nikon Lens Hood, either the snap-on or screw-in type, depending on the taking lens. The hood will also keep sand and snow from striking the lens.

Reflections

For shots of fish and underwater creatures, use the Nikon Polarizing Filter as you would in photographing displays in a reflection-dappled show window. Usable on all Nikkor lenses with 52mm thread, this filter reduces surface reflections on water, as well as on glass or any smooth reflecting surface except metal.

A. Gregory

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Portraits

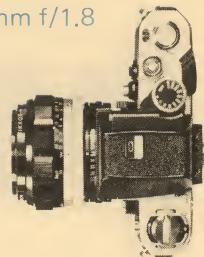
*Faces fascinate.
Frame them with feeling.*

Man has a myriad faces. And capturing the true one will test your many talents: photographic technique, creativeness, ability to handle people, etc. But like genuine works of art, good, honest portraits never fail to fascinate.

Camera fright causes most people to stiffen or assume unnatural poses, especially indoors when the camera is brought up close. Therefore, put your subject at ease. Gain his confidence. Talk to him as you suggest different poses or expressions while readjusting your photographic equipment.

The eyes and mouth are great revealers of character so concentrate on them. The hands, too, are often expressive of personality. And when your subject is

85mm f/1.8



both emotionally and physically at ease and you know you've got the right mood and feeling that truly mirror his personality, shoot.

The Nikkor medium telephotos — the 85mm and 105mm with their reproduction ratios and natural perspective, or the 135mm, 180mm and 200mm with their comparatively shallow depth of field which will eliminate or blur the unwanted background — are ideal for good portraits. And you can keep a proper distance from your subject and still be able to talk to him.

To focus sharply throughout, set the diaphragm at the smallest opening possible. (You can actually check the depth of field before you shoot with the

depth-of-field preview button.) This is especially effective for large close-ups and for emphasizing surface and skin texture. And for this particular job, use the versatile Micro-Nikkor. Its remarkable clarity even captures the down on the face of a young miss.

To picture your subject in his natural surrounding — the artist in the atelier, the housewife in the kitchen — your Nikkor wideangles again fill the bill.

For a studio-type portrait, pose your subject in front of a simple, muted background with the light contrast kept low. Available light is really the most flattering and easiest to work with. For instance, outdoor portraits of women are most complimentary when taken in the shade or in overcast daylight since soft



135mm f/2.8



A.S. Rich

light hides blemishes and wrinkles and enhances even the smoothest complexion. Harsh sunlight is only for the very young. And if you're using flash, apply bouncelight for softer, more diffused illumination. When working with children, give them something to play with or tell them a story while you pose them. Since it lets you get down to the level of a child's world with waist-level viewing, screw on the Nikon Right-Angle Viewing Attachment. Or better still, use the Nikon Waist-Level Finder. In selecting the correct exposure, remember that the latitude of color film is generally much narrower than that of black-and-white film. Again, if you're using flash, diffuse the light with a handkerchief to avoid harshness.

Action

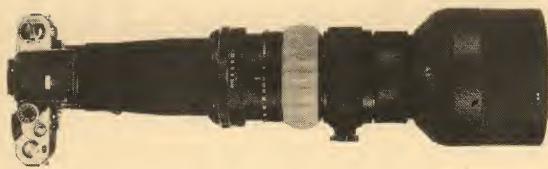
*Action may speak louder than words,
But photographed, it tells a thousand stories silently.*



J. Cooke

The thunderous blast-off of a man-to-moon mission is action that makes news. The graceful glide of a swan is action that inspires the poet and the musician. Cell division is action that enlightens the scientific or industrial researcher. Whatever the action, your Nikon F2 stands ready to record it and to bring out the photojournalist, the artist, the scientist and the investigator in you. And among the many fine features that your camera prepares you for instant action in capturing, by freezing or blurring, any movement are its fast and accurate shutter speed of 1/2000 sec., the F2S Photomic Finder with its EE Aperture Control Attachment to help you concentrate on composition without worrying

400mm f/4.5



about exposure problems and motor drive (see Motor Drive) and photomicrographic (see Close-Ups) capability. A distant action is captured more easily than one going on near the camera, and movement approaching the camera is also recorded more easily than one crossing in front of it. For sports actions, know the rules of the game, especially when a score is imminent. Plan to shoot and begin shooting before the crucial moment. And be confident. Your camera has the highest shutter speed of 1/2000 sec., and you have a choice of many very fast Nikkor lenses. And for added convenience, there is the Nikon Action Finder. This sportsfinder will let you view the entire picture field from 60mm (2-1/2 in.) behind the eyepiece, especially welcome when the action is so swift there's little time to focus and compose. It is also ideal when you must wear protective glasses or goggles.

When you can anticipate the next movement
Many sports have a definite sequence of movements

and the peak actions are predictable like pole-vaulting, diving, soccer, etc. This enables you to concentrate on getting only the most photographic moment without being bothered by framing. But since a great deal of the action in a stadium or arena will take place far away from you, you won't be able to make out clearly what's going on without the Nikkor medium or long telephotos. If the event is indoors, you can't miss with the high-speed 180mm f/2.8 or the 300mm f/2.8, the latter light enough to be hand-held. There are also the longer 400mm, 600mm, 800mm and 1200mm lenses used with the Focusing Unit, a focusing tube with an automatic diaphragm; you'll need a tripod for these four lenses, as well as for the 1000mm. Then, again, there is the handy, hand-holdable 500mm. If you're close to the action and want to show that you were in the thick of it, one of the Nikkor wideangles, such as the 15mm, 20mm or the 24mm, will do the trick. These extreme wideangles are especially effective for team sports where the players and you and the other spectators all seem to be involved in the same action.



J. Cooke

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When quick action makes framing difficult

The greater the speed of action, the more generation of excitement, and the more opportunities for the unexpected and for more interesting pictures. This is where the telephotos bow to the zooms. You'll find the zooms also handy when you're alternately shooting the game as a whole and the star performers in close-ups. With either the 50-300mm f/4.5, 80-200mm f/4.5 or the 200-600mm f/9.5 Zoom-Nikkor, framing is no problem, and you needn't worry if you haven't got any elbow room. While a zoom lens amply compensates for a number of lenses of various focal lengths, its real value is that you can see through the viewfinder the most effective framing throughout the zooming range without changing the camera position. For action on stage or under a circus tent, try the compact, easy-to-use 43-86mm f/3.5 Zoom-Nikkor. Without taking your eye away from the viewfinder, vary the focal length from semiwideangle to normal to telephoto to compose your picture the way you want.

Nikkor Zooms Nikon was not only the first to design practical zoom lenses for 35mm still photography but also the first to craft them with quality performance comparable to that of the finest individual standard lenses. Once in focus, the Nikkor zooms remain in sharp focus throughout their zoom range to allow you to zoom clearly from far distant scenes to close-ups and vice versa without changing your camera position. These four zooms with focal lengths ranging from 43-86mm to 200-600mm cover from medium wideangle to supertelephoto.

200-600mm f/9.5



J. Cooke

Panning

In panning swift action, use a slower shutter speed than usual, follow your subject and keep him in sight long before tripping the shutter release. The main portion of your picture will turn up sharp with the blurred background accenting the feeling of movement. The slow shuttering technique can also be used to create an effective impression of motion.

The Nikkor zooms will also give you somewhat similar

expressive shots. Zoom in or out of your subject and shutter at the same time. This shifting of focal lengths blurs the subject and his background. Using color film in panning will give you dazzling streaks or soft pastel swirls.

Nikon Viewfinders As with many other accessories, your Nikon F2 gives you choice in its viewfinders, six of them: F2S Photomic Finder and standard Photomic Finder, both prismatic eye-level finders with built-in through-the-lens center-weighted metering system and exposure data (lens aperture and shutter speed) within; the former, when used with the EE Aperture Control Attachment, provides automatic diaphragm setting. Eye-Level Finder, standard pentaprism type. Waist-Level Finder with a 5X magnifier for low- or ground-level work, close-ups, photomicrography and astrophotography. Action Finder with eye-level viewing of the entire picture field from a distance of even 60mm from the eyepiece; convenient for eyeglass wearers and aerial and industrial photography. 6X Focusing Finder for pinpoint focusing covering the entire picture field with facility for eyesight adjustment ranging from -5 to $+3$ diopters. All Nikon finders frame your pictures exactly as they will appear on film.



Action
Finder



Eye-Level
Finder



6X Focusing
Finder



Waist-Level
Finder



F2S Photomic Finder



F2 Photomic Finder

Motor Drive

*Automatic firepower to tell a short story
in 36 frames, a long one in 800*

One of the special features that give your Nikon F2 professional status is its motor drive capability. With the simple attachment of the compact and easy-to-use MD-1 Motor Drive and the Cordless Battery Pack, your Nikon F2 gets the firepower to convert it into an automatic sequence camera. You can shoot single exposures or continuous bursts of two or more frames at speeds up to five frames per second (7 fps capability available on special order) on the spot or by remote control. You can choose — choice is one of the nicest things about the Nikon system of photography — your film roll according to the number of exposures you want: 36, 250 and 800. (For the latter two, special magazine backs are used.) And to speed up things, the MD-1 Motor Drive permits film rewinding of 36-exposure film by motor in a fast 7 seconds.

With the motorized Nikon F2 Photomic, plus a Nikkor zoom lens so you won't have to interchange lenses or lose your best shooting position and the Nikon Pistol Grip for firm support and easy triggering, you'll always be ready to record all the important sequences in a sports, news or fashion story you want to tell in full. But if you want an unmanned, completely automatic

firing and exposure-metering camera system, mount the motor-driven Nikon F2 with the F2S Photomic Finder and the EE Aperture Control Attachment and add an intervalometer — an unbeatable combination that thinks and shoots for you.

Used with wireless or wired remote-control equipment, you can trigger the camera whenever personal attendance is not possible or to be avoided, for instance, in areas where danger exists, as at a stampede or in a radiation-contaminated area; when you do not want to reveal your presence, as in surveillance work; or where a vantage shooting point is not possible, as at a launching of Mars-bound rocket or in a surgical theater.

In wide open spaces and under ideal conditions, the camera can be activated from a distance of about 1km (5/8 mile) and in urban areas from about 300mm (1000 ft) away. For periodic or random sampling, the motorized Nikon F2 will conduct





Motor Drive MD-1
With Battery Pack



250 Exp Magazine Back
With Battery Pack

time-lapse studies with an intervalometer or other electric timing devices. Traffic volume, work rhythms, meteorological phenomena, cell division and multiplication, plant and animal growth, checking equipment and instrument panels, changes in water levels in dams, electronic waveforms, etc., can be recorded at any time interval; these and many other types of scientific and industrial photography can also be performed at the camera position or by remote control. The built-in relay permits you to fire several motor-driven Nikon F2's individually or all at once for coverage of the action from different angles.

Under unfavorable lighting conditions or for indoor

sports, try your motorized camera with the Nikon Repeating Electronic Flash Unit. With its AC or DC Power Pack, this unit synchronizes repeated flashes at any firing pattern, and has a recycling time of one-third second. The Ready-Light built into the Photomic and the standard eye-level finders will let you know when the flash unit is fully charged.

For holding your Nikon F2 mounted with any of the motor drives and other accessories, Compartment Cases FB-10 is recommended. Cords, batteries, battery chargers, AC/DC converters, etc., are also available to make motor-driven photography more convenient.



Close-Ups

The discovery and delight of the colors and patterns of the close-up world.



M. Pagnutti-Saverio

So much of the wonder and mystery of the world of close-ups goes unseen. And not simply because our eyes have their limits. For one thing, we just don't take the time and bother to stop and enjoy it. For another, many photographers believe that doing close-ups — and this includes copying of color slides and black-and-white transparencies, as well as documents and other printed materials — is only for the specialists. The Nikon F2 shows how wrong they can be. For it is in this fascinating close-up world that your camera proves its versatility and easy handling, with viewfinders that show you exactly how your pictures will be framed; through-the-lens metering with the Photomic finders; low- or ground-level viewing convenience with the Waist-Level and 6X Focusing Finders,

55mm f/3.5 Micro



the latter especially effective for pinpoint focusing; the depth-of-field preview button to let you see the depth of field at the taking aperture and many other features. But what really makes close-ups a joy to do is the large selection of Nikon accessories to choose from according to your interests or pocketbook: Close-Up Attachment Lenses, Extension Ring E2, Extension Ring Set K, Bellows Focusing Attachments PB-4 and PB-5, 105mm f/4 Bellows-Nikkor, Slide Copying Adapters PS-4 and PS-5, Repro-Copy Outfit Model PF-2 and two distinct lenses specifically designed for close-ups, the 55mm f/3.5 Micro-Nikkor-P Auto and the 200mm f/5.6 Medical-Nikkor Auto.

There is no distinctly defined boundary to indicate where general photography ends and close-up photography begins, but, generally, close-ups refer to pictures taken from a distance closer than that which can be focused by an ordinary lens. This can be done by either increasing the magnification power of the lens through the simple attachment of a supplementary lens to the taking lens or

by extending the lens-to-film distance through the insertion of a device of fixed (ring) or adjustable (bellows) length between the lens and the camera body. (See page 32 for the Magnification Range of Various Nikon Close-Up Accessories.)

Increasing the Power of the Lens

The easiest and least expensive way to conduct close-ups is to use the Close-Up Attachment Lenses. Available in three different diopters, Nos. 0, 1 and 2, they are screwed on Nikkor lenses with 52mm-diameter front screw thread and may be used singly or in combination. Since they allow you to shoot with the automatic diaphragm of the prime lens still in function, there is no need to calculate exposure increases.

Extending the Lens-to-Film Distance

For larger magnifications than that possible with the Close-Up Attachment Lenses, attach the Extension Ring E2 or the Extension Ring Set K between the camera body and the lens; the former extends the lens-to-film distance by 14mm; the latter from 5.8 to 46.6mm depending upon the ring combinations.

The Extension Ring E2 has a plunger which opens the automatic diaphragm of the Auto-Nikkor lenses to full aperture for the brightest focusing. Releasing the plunger stops down the lens to the taking aperture. Two of these rings may be combined for larger magnifications.

The Extension Ring Set K consists of five rings (K1 through K5) usable individually or in nine combinations for various reproduction ratios. You can attach the E2 ring to take advantage of its plunger for aperture diaphragm control.

If you want more versatility than the extension rings, the Nikon Bellows Focusing Attachment Models PB-4 and PB-5 will give you a continuous and larger focusing

range for close-ups and macrophotography. Since the lensboard of the PB-4 swings and shifts, you can control perspective and obtain a larger depth of field.

The BR-2 Macro Adapter Ring permits reverse mounting of any of your lens with 52mm-front thread on the Bellows Focusing Attachments for optimum optical performance in macrophotography.

For convenient copying of your color slides and black-and-white transparencies, use the Slide Copying Adapter PS-4 or PS-5 on either the Bellows Focusing Attachments PB-4 or PB-5. The BR-3 Connecting Adapter serves as an adapter to connect the Slide Copying Adapter to the rear of a reversely mounted lens.

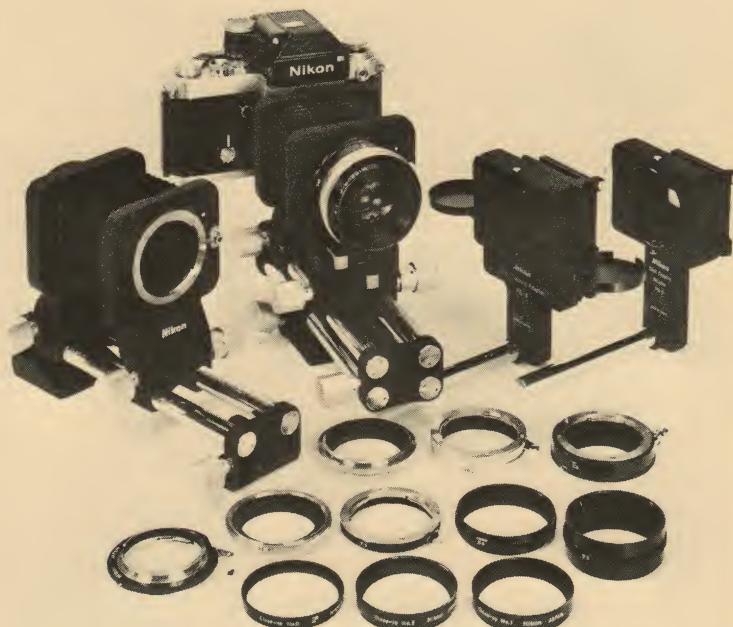
Designed exclusively for the bellows attachments, the 105 mm f/4 Bellows-Nikkor, which has no focusing mechanism, will let you take pictures continuously from infinity to 1.3X close-ups with the PB-4 and PB-5.

If you're conducting critical reproduction work calling for higher magnifications, such as copying documents, maps and pictures or photographing small objects and

specimens, the Repro-Copy Outfit Model PF-2 gives you the firm support you need when your Nikon F2 is mounted with any of the above close-up attachments. With the Microscope-Camera Adapter Model 2, you can attach the Nikon F2 to a standard microscope for low-power photomicrography. An experienced world leader in the production of microscopes, Nikon offers a very wide line of professional equipment for photomicrographic and macrophotographic applications. (For further information, see your microscope representative or write us.)

Special Close-Up Lenses

There are two Nikkor lenses specifically designed for extreme close-ups done speedily and easily: The 55mm f/3.5 Micro-Nikkor-P Auto focuses all the way from infinity to a 1:2 reproduction ratio and up to life-size with the M2 Ring, which is supplied with the lens, without any loss of exceptionally sharp image resolution. Many photographers also mount this versatile and handy

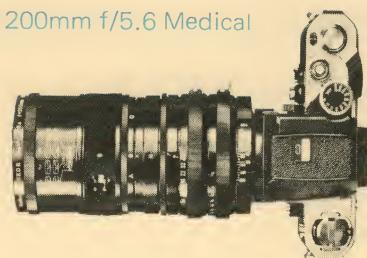


lens on their Nikon F2 instead of a normal 50mm lens. The 200mm f/5.6 Medical-Nikkor Auto is preset for 11 reproductions from 1/15 to 3 times the actual size when combined with six auxiliary lenses. The lens features its own light sources: four bulbs to light the subject for viewing and focusing and a ringlight electronic flash for uniform, shadowless illumination. By simply setting the film speed and desired magnification, the diaphragm automatically stops down to the correct exposure. Although originally developed for medical research photography, the Medical-Nikkor is so completely automatic you'll find it helpful in industrial and other laboratory photography.

Some Close-Up Reminders

Sharp definition of texture with clear minute details is very important in close-up photography. Therefore, correct focusing will decide the total picture quality. Of course, the fast speed of Nikkor lenses and the brightness of Nikon focusing screens help you in accurate focusing, but it isn't enough. The Nikon Eyepiece Magnifier with a 2-power magnification and the 6X Focusing Finder provide pinpoint focusing, the latter especially convenient since it offers waist-level viewing covering the entire viewfield. Unlike candids or snapshots, you shoot close-ups only after you have studied carefully what the final effect will be. Through the viewfinder of your Nikon F2, you can see the exact depth of field or out-focused area. Just before pressing the shutter, check once more to see that the focusing is right. Since any slight motion will

200mm f/5.6 Medical



ruin your picture, make sure there is no movement around you. If there is a feel of a breeze, improvise and surround your subject with a paper or vinyl wall. And be sure to use a tripod. For extreme close-ups, always use the Nikon Cable Release.

Old Japanese silver and gold coins



MAGNIFICATION RANGE OF VARIOUS NIKON CLOSE-UP ACCESSORIES

(Note: The breaks in the magnification range for the Close-Up Attachment Lenses and the Extension Ring Set K indicate the areas which these accessories do not cover. The yellow portion at the right of the table shows the normal magnification range of the lens itself.)



USING YOUR NIKKOR TELEPHOTO AND WIDEANGLE LENSES



Nikkor Telephotos

Telephotos, like telescopes, bring the distant subject closer for a larger view than that possible with the eye or normal lens. They are particularly useful when you can't get close to the subject. With their shallow depth of field, you can isolate the subject and throw the confusing background or foreground out of focus. With a long telephoto, you can get the effect of different planes appearing as if they were compressed when the photo is

enlarged and viewed from a close distance. For instance, a motor parade shot approaching you will give the impression that the cars are jammed together.

The Nikon system of photography offers you 15 telephoto lenses from 85mm to an amazingly long 2000mm, plus 4 telezooms from 43-86mm to 200-600mm to freely change the close-up viewpoint without changing your camera position.

Especially recommended for animal and bird photography are three lenses that, despite their focal length, are so compact and lightweight that they can be used without a tripod: the 400mm f/5.6 Nikkor and 500mm f/8 Reflex-Nikkor and the 80-200mm f/4.5 Zoom-Nikkor. As are the other lightweight Nikkor telephotos and zooms, this trio is also ideal for mountain and sports photography and photojournalism.



A. Gregory



Mats-Erik Widebäck

Nikkor Wideangles

Train yourself until you know the coverage of your wideangle without even looking thru the finder. Because its focal length is shorter than a normal lens, the wideangle offers a wider picture angle. Try it when you're dramatizing man and his background in close shots or shooting interiors in limited space.

Three 35mm Nikkor wideangles (f/1.4, f/2 and f/2.8) permit you to focus as close as 0.3m (1 ft). And with their great depth of field, focusing is quite simple.

These lenses are practical choices for snapshots, structures and landscapes. Because of their speed, this trio, especially the f/1.4, is very handy for indoor sports and gatherings and other interior shots. Other popular wide-angles are the 28mm f/2 and f/3.5 with their large picture angle of 74°. Since they allow you to close in 0.3m (1 ft) and 0.6m (2 ft), respectively, on your subject, use them to shoot the scholar among his books in his study or children playing in the nursery. For wider angles, there are the 24mm f/2.8 with an 84° and the 20mm f/3.5 with a 94° field of view. And for a still wider coverage, there is the remarkable 110° picture angle of the 15mm f/5.6. All these wideangles, in addition to being especially effective for reproducing the entire field of view even in very tight quarters, will also give interesting and dramatic effects by



U. Kowalski

their exaggeration of perspective, which is more conspicuous the wider the angle.

Remember that with a wideangle lens of less than 28mm, apparent image distortion will be more pronounced when you focus close to your subject from above or below him. Up to a point, this exaggeration of perspective will not be unpleasant. But the more you raise or lower the camera, the greater the distortion. High-fashion photographers use the wideangles for this particular exaggerated effect. But for a wide, wide coverage of 180° you have a choice of two Nikkor fisheyes, the 8mm f/2.8 with equidistant projection and the 10mm f/5.6 OP with orthographic projection. And for a fantastic 220° picture angle, there are the 6mm f/2.8 and 6mm f/5.6 Fisheyes (both equidistant projection). The 16mm f/3.5 with a 170° coverage fills the whole film format with its distorted image unlike other fisheyes. The 8mm f/2.8, 6mm f/2.8 and 16mm f/3.5 feature an automatic diaphragm.

NIKKOR LENS CHART

Lens	Construction	Picture angle	Aperture			Weight (g)
	Groups-Elements		Type	Minimum aperture f/	Meter coupling prong	
6mm f/2.8 Fisheye-Nikkor Auto	9 – 12	220°	Automatic	22	Yes	5200
6mm f/5.6 Fisheye-Nikkor	6 – 9	220°	Manual	22	No	430
8mm f/2.8 Fisheye-Nikkor Auto	8 – 10	180°	Automatic	22	Yes	1000
10mm f/5.6 OP Fisheye-Nikkor	6 – 9	180°	Manual	22	No	400
16mm f/3.5 Fisheye-Nikkor Auto	5 – 8	170°	Automatic	22	Yes	330
15mm f/5.6 Nikkor Auto	12 – 14	110°	Automatic	22	Yes	720
20mm f/3.5 Nikkor Auto	9 – 11	94°	Automatic	22	Yes	390
24mm f/2.8 Nikkor Auto	7 – 9	84°	Automatic	16	Yes	290
28mm f/3.5 Nikkor Auto	6 – 6	74°	Automatic	16	Yes	215
28mm f/2 Nikkor Auto	8 – 9	74°	Automatic	22	Yes	345
35mm f/2.8 Nikkor Auto	6 – 7	62°	Automatic	16	Yes	200
35mm f/2 Nikkor Auto	6 – 8	62°	Automatic	16	Yes	285
35mm f/1.4 Nikkor Auto	7 – 9	62°	Automatic	22	Yes	415
35mm f/2.8 PC-Nikkor	7 – 8	62°	Preset	32	No	335
45mm f/2.8 GN Auto Nikkor	3 – 4	50°	Automatic	32	Yes	135
50mm f/2 Nikkor Auto	4 – 6	46°	Automatic	16	Yes	205
50mm f/1.4 Nikkor Auto	5 – 7	46°	Automatic	16	Yes	325
55mm f/1.2 Nikkor Auto	5 – 7	43°	Automatic	16	Yes	420
55mm f/3.5 Micro-Nikkor-P Auto	4 – 5	43°	Automatic	32	Yes	235
85mm f/1.8 Nikkor Auto	4 – 6	28°30'	Automatic	22	Yes	420
105mm f/2.5 Nikkor Auto	4 – 5	23°20'	Automatic	32	Yes	435
135mm f/3.5 Nikkor Auto	3 – 4	18°	Automatic	32	Yes	460

* Used with Focusing Unit

** With Focusing Unit

Lens	Construction	Picture angle	Aperture			Weight (g)
	Groups-Elements		Type	Minimum aperture f/	Meter coupling prong	
135mm f/2.8 Nikkor Auto	4 - 4	18°	Automatic	22	Yes	620
180mm f/2.8 Nikkor Auto	4 - 5	13°40'	Automatic	32	Yes	830
200mm f/4 Nikkor Auto	4 - 4	12°20'	Automatic	32	Yes	630
300mm f/4.5 Nikkor Auto	5 - 6	8°10'	Automatic	22	Yes	1060
400mm f/5.6 Nikkor Auto	3 - 5	6°10'	Automatic	32	Yes	1400
400mm f/4.5 Nikkor Auto*	4 - 4	6°10'	Automatic	22	No	3100**
500mm f/8 Reflex-Nikkor	3 - 5	5°	—	—	—	1000
600mm f/5.6 Nikkor Auto*	4 - 5	4°10'	Automatic	22	No	3600**
800mm f/8 Nikkor Auto*	5 - 5	3°	Automatic	22	No	3500**
1000mm f/11 Reflex-Nikkor	5 - 5	2°30'	—	—	—	1900
1200mm f/11 Nikkor*	5 - 5	2°	Manual	64	No	4300**
2000mm f/11 Reflex-Nikkor	5 - 5	1°10'	—	—	—	17500
43mm ~ 86mm f/3.5 Zoom-Nikkor Auto	7 - 9	53° ~ 28°30'	Automatic	22	Yes	410
50mm ~ 300mm f/4.5 Zoom-Nikkor Auto	13 - 20	48° ~ 8°10'	Automatic	22	Yes	2270
80mm ~ 200mm f/4.5 Zoom-Nikkor Auto	10 - 15	30°10' ~ 12°20'	Automatic	32	Yes	830
200mm ~ 600mm f/9.5 Zoom-Nikkor Auto	12 - 19	12°20' ~ 4°10'	Automatic	32	No	2300
200mm f/5.6 Medical-Nikkor Auto	4 - 4	12°20'	Automatic	45	No	670
105mm f/4 BellowsNikkor	3 - 5	23°28'	Preset	32	No	230

ACCESSORIES FOR NIKON F2

FOCUSING SCREENS AND VIEWFINDERS

Focusing Screens
F2 Photomic Finder DP-1
F2S Photomic Finder DP-2
Waist-Level Finder DW-1
6X Focusing Finder DW-2
Action Finder DA-1
Eye-Level Finder DE-1
EE Aperture Control Attachment DS-1
Photomic Illuminator DL-1
Eyepiece Magnifier
Right-Angle Viewing Attachment
Eyepiece Correction Lenses
Rubber Eyecup

MOTOR DRIVE AND ACCESSORIES

Motor Drive MD-1
Cordless Battery Pack MB-1
250 Magazine Back MF-1
800 Magazine Back MF-2
Battery Pack Extension Connector MA-3
AA Penlite Battery Unit MS-1
NC Battery Unit MN-1
AC/DC Converter MA-2
NC Battery Charger MH-1
Bulk Film Loader
Pistol Grip Model 2
Wireless Remote Control Unit
Repeating Flash Unit
Compartment Case FB-10

CLOSE-UP EQUIPMENT

Bellows Focusing Attachment PB-4
Bellows Focusing Attachment PB-5
Slide Copying Adapter PS-4
Slide Copying Adapter PS-5
Extension Ring E2
Extension Ring Set K
Close-Up Attachment Lenses Nos. 0, 1, 2
BR2 Macro Adapter Ring
BR3 Adapter Ring
Repro-Copy Outfit PF-2

FLASH ACCESSORIES

Flash Unit BC-7
Flash Unit Coupler AS-1
Repeating Flash Unit
 AC Power Pack
 DC Power Pack

OTHER ACCESSORIES

Camera Cases
 Hard Case CH-1
 Semi-Soft Case CF-1
 Blimp Case CE-4
 Hard Case (43-86mm Zoom) CH-2
 Semi-Soft Case (Action Finder) CF-2
Neck Straps
Compartment Cases
 FB-5
 FB-6
 FB-8
 FB-9
 FB-11
 Foam Rubber
Camera-Lens Cases
Body Cap
Gelatin Filter Holders
Soft Shutter Release AR-1
Cable Release AR-2
Film Cassette AM-1
Panorama Head AP-2
Lens Caps
Lens Cases
Lens Hoods
Filters



NIKON FOR ANYTHING OPTICAL

Ever since its founding in 1917, Nippon Kogaku K.K. (Nikon for short) has been specializing only in optical technology. And photographic equipment – the Nikon F2 is one in a quintet of Nikon cameras – is just one of the many different types of optical instruments that bear the Nikon trademark. And like the Nikon F2, they all have the same quality of craftsmanship and dependability of performance.

Nikon F and Nikkormat Two other members of the Nikon system of photography. The former also has motor drive capability and viewfinder and focusing screen interchangeability. The latter does not, but other features of the Nikon system, including the Nikkor lenses, and close-up and many other accessories, give the easy-to-use and durable Nikkormat the versatility and dependability to tackle almost any photographic mission, as can the Nikon F.

Nikonos II (Calypso/Nikkor) Widely accepted as standard equipment for underwater photography, the Nikonos is amphibious – it requires no special housing – and the most versatile and convenient all-weather 35mm camera available today. It not only gives the instant response required by skindivers in water as deep as 160 ft (50m), it also performs equally well on land for the on-the-spot press photographer, expedition historian, archaeologist, medical researcher and laboratory technician. The Nikonos is a camera for any reason, season or environment.

Nikon Binoculars Nikon has been making binoculars for more than 50 years. From among a variety of models, you can choose the right one for professional or personal use. Mounted terrestrial binoculars are also available.

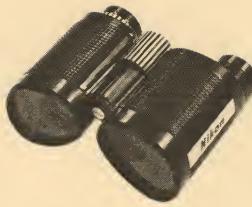
Nikon Microscopes So wide is their assortment, there is a Nikon microscope to fill the varying degrees of microscopical requirements from the general needs of the school biology class to the exacting demands of scientific and industrial research institutes. The basic compound



Nikonos II

stands for the Nikon L-Ke, S-Ke, S-Kt and S series microscopes are designed to accept interchangeable objectives, eyepieces, stages, tubes, condensers, illuminators and many other special accessories. With this building-block system, Nikon microscopes will perform practically all phases of microscopy — bright- and dark-field, epi-illumination, phase contrast, polarization, interference phase, differential interference, and automatic photomicrography and cinemicrography. Special microscopes include stereoscopic models with unique zoom optics; the inverted M and MS models for metallurgical, as well as industrial and scientific, applications; the Apophot, an amazingly versatile research microscope with a zoom Koehler illuminator; and the Multiphot for macrophotography.

Industrial Lenses EI-Nikkor for photographic enlargers; Repro-Nikkor for life-size reproduction in the 35mm format; Cine-Nikkor for 16mm movie cameras and 1-inch vidicon cameras; Fax-Ortho-Nikkor for reproduction of drawings that need large magnifications; Fax-Nikkor for office photographic copying machines and photoengraving cameras; Apo-Nikkor for photoengraving;



7X21 Binocular



Nikon Microscope
Model LBR-Ke

and Ultra-Micro-Nikkor for ultramicrofilming and production of IC's and LSI's.

Optical Measuring Instruments Profile projectors, autocollimators, toolmakers' microscopes, high-temperature microhardness testers, optical readouts and glass scales.

Surveying Instruments Levels, transits, theodolites, rangefinders and cartographic stereoscopes.

Ophthalmic Instruments Fundus cameras and zoom-photo slit-lamp microscopes for examinations of eye defects and diseases, vertexometers and dioptometers for measurement of the power of prescribed glasses, ophthalmic lenses and weak-vision correction lenses.

And many other types of optical instruments, such as binocular telescopes, reflector telescopes and analytical equipment for astronomical observatories, and radiation shielding glass and periscopes for nuclear laboratories.



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